

SC11867MP

REMARKS

After the foregoing amendment, claims 1-2, 4-5, 8-13 and 15-18 are active in the present application. Claims 1, 4, 12 and 15 have been amended and previously withdrawn claims 19-28 have been canceled. No new matter has been added by the amendment and the amendment is believed to place the application in condition for allowance, or at least in better form for Appeal. Accordingly, entry of the amendment, reconsideration, and allowance of the application are respectfully requested.

PRELIMINARY MATTERS

First, non-elected claims 19-28 have been canceled.

Second, claims 4 and 15 were objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 4 and 15 both recite that the top die is larger than bottom die. Their base claims, claims 1 and 12, respectively, recited that the top and bottom dies were the same size. Claims 4 and 15 have both been written in independent form and now respectively include the language of the claims from which they depended, except for the language concerning die size, and thus, both claims now are believed to overcome the objection due to form.

The amendments to claims 4 and 15 were made to comply with the requirement of form expressly set forth in the previous Office Action (Page 2, para. 3, Claim Objection). Accordingly, Applicants respectfully request entry of the amendments to claims 4 and 15 and that the objection be withdrawn.

SC11867MP

CLAIM REJECTIONS

Claims 1-2, 4, 9-13, 15 and 18 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. 2002/0195624 of Glenn et al (Glenn et al. '624). The Office Action refers to FIGS. 7-8 as disclosing a stacked multichip package having all of the claimed features of the present invention. Applicants respectfully traverse the rejection.

Glenn et al. '624, like the present invention, is directed to a stacked die device in which the top and bottom die are electrically connected to a substrate or base carrier via wirebonding. Referring to FIGS. 7-8, the top die is separated from the bottom die by a spacer 50. The spacer 50 is located in a central area on the top surface of the bottom die. The spacer 50 includes layers of adhesive 52 and 54 on its bottom and top sides, respectively, to attach it to the bottom and top dies. Glenn et al., at para. [0051], states, "the second die is pressed down until its bottom surface is spaced apart from the top surface of the first die 14 by the thickness of the spacer." Glenn et al. further recites, at para. [0051], "The adhesive 40 covers the wire bonding pads on the top surface of the first die 14 and the connections of the first plurality of bonding wires to those pads, and substantially fills the peripheral space between the two dies."

The present invention has top and bottom dies where the bottom die has a bead formed on its top surface between a peripheral area that has bonding pads and a central area. The bead does not extend to the first bonding pads. An adhesive material is formed in the central area on the top surface of the bottom die for attaching the top die to the bottom die. The bead surrounds the adhesive material.

SC11867MP

There are at least two important differences between the stacked device disclosed by Glenn et al. '624 and the stacked device of the present invention. First, the present invention does not include a spacer like the spacer 50 of Glenn et al. Rather, the present invention uses the bead 124 to separate and space the top die from the bottom die. Second, the bead of adhesive material 124 of the present invention does not cover the die bonding pads and wirebonds of the bottom die.

The claims are clear on the first point by not reciting any spacer. Further, independent claims 1 and 12 have been amended to recite that the bead does not extend to the first bonding pads. The claims already recited that the bead is located between the peripheral area of the bottom die where the bond pads are located and the central area, and that the bead maintains a predetermined spacing between the bottom die and the top die.

Applicants believed the claims were clear, when read in light of the specification and drawings, that the bead did not cover the bottom die bonding pads and the wirebonds thereon, and that the present invention does not include a spacer like the spacer 50 of Glenn et al. '624. However, in view of the Examiner's comments in the Office Action at the paragraph numbered 8, clarifying language has been added to claims 1 and 12. As the amendments to claims 1 and 12 are responsive to the Examiner's statement in the prior Office Action that the claims did not require that the bead not cover the die bond pads, there is no new matter for consideration by the Examiner. Moreover, the claims now are in better form for appeal. Accordingly,

SC11867MP

Applicants respectfully request that the claim amendments be entered pursuant to 37 C.F.R. 116(b).

Applicants submit that the Glenn et al. '624 application does not teach, suggest or disclose either of the two distinguishing features discussed above, and thus, the present invention is not anticipated by Glenn et al. '624. Accordingly, Applicants respectfully request that the rejection under §102(e) of claims 1-2, 4, 9-13 and 18 be withdrawn.

Claims 5, 8 and 16-17 were rejected under 35 U.S.C. §103 as being unpatentable over Glenn et al. '624 in view of U.S. Patent no. 6,530,515 to Glenn et al. Glenn et al. '515 is cited as teaching a bead made of adhesive, and since epoxy is an adhesive, the epoxy used to form the bead of the present invention is obvious. Applicants respectfully traverse the rejection.

As noted above, Glenn et al. '624 teaches forming beads 40 over the bonds and bond pads of the bottom die and spacing the top and bottom die with a spacer 50. Thus, even if Glenn '515 teaches forming a bead of epoxy, the bead is still located in a different place (over the bond pads) and for a different purpose (to protect the bond pads and wirebonds and prevent the top die from breakage caused by wirebonding the second die to the base carrier (see Glenn et al. '624 FIG. 2). Thus, a combination of the two references does not teach, suggest or disclose the present invention, as claimed.

Accordingly, reconsideration and withdrawal of the rejection under §103 is requested.

SC11867MP

In view of the foregoing amendment and remarks, it is respectfully submitted that the present application, including claims 1-2, 4-5, 8-13 and 15-18, is in condition for allowance and such action is respectfully solicited.

Please charge any fees associated herewith to 502117.

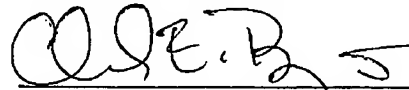
Respectfully submitted,

SEND CORRESPONDENCE TO:

Motorola, Inc.
Law Department

Customer Number: 23330

By:



Charles E. Bergere

Attorney of Record
Reg. No.: 36,337